

1                   ABSTRACT OF THE DISCLOSURE  
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3                   An improved imaging array (and corresponding method of operation) includes a plurality  
4                   of heterojunction thyristor-based pixel elements disposed within resonant cavities formed on a  
5                   substrate. Each thyristor-based pixel element includes complementary n-type and p-type  
6                   modulation doped quantum well interfaces that are spaced apart from one another. Incident  
7                   radiation within a predetermined wavelength resonates within the cavity of a given pixel element  
8                   for absorption therein that causes charge accumulation. The accumulated charge is related to the  
9                   intensity of the incident radiation. The heterojunction-thyristor-based pixel element is suitable  
10                  for many imaging applications, including CCD-based imaging arrays and active-pixel imaging  
11                  arrays.